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# THE
# PLOTTER

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## MEETINGS

Almost time for another meeting, so had better get this off to all of our loyal readers. Hope that you enjoy this month's of- ferings.

Our October meeting was called to order at 7:45 P.M. on October 5th, in Rm 142, Clairmont Hall, CCC. After announcements, Sec/ Treas. report, and notices, we went to Old Business. We asked again for someone to bring a copy of a subscription form for Sinclair Computing. As yet we have not received one. As that was all of the Old Business, we went on to New Business.

NEW BUSINESS: It was proposed and passed by majority vote to change the office of Vice-Chair- man to that of Vice-Chairman/ Secretary. That leaves the post of Treasurer by itself. We then opened nominations for all el- ected officers. The nominations will remain open until November 15, 1984. The election this year will be by written ballot. The ballots will be mailed out with the December newsletter. We will ask that the ballots be brought to the December meeting or, if unable to attend, that they be mailed to the newsletter. If you want to be counted, and want to have a say in who is elected, be sure to vote. EITHER WAY!

The following nominations were made to date:

CHAIRMAN:       Dennis Jurries
                Dick Wagner
                Jack Armstrong

VICE-CHAIRMAN/SEC.:
                Rick Read
                Bob Cole
                Vince Lyon

Treasurer:      Rod Gowen

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>????????????????

Any suggestions? Bring them to the November meeting. It will be held:

            on: FRIDAY, NOV. 2, 1984
            at: 7:30 P. M.
            in: Rm 142, CLAIRMONT HALL
                CCC

There was also a short report on the OMSI COMPUTER FAIR. We had a table along with PATS group. There was a good turnout at the fair. We hope that we will get a little more notice next year.

HOPE TO SEE ALL OF YOU AT THE MEETING!

!!!!!!!!!!!!!!!!!

## WHAT YOU'LL FIND
## -IN THIS ISSUE-
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# ############

## FROM THE EDITOR'S DESK

It hardly seems possible, but in December, our little group will start into it's third year. We sincerely hope that we will be around after another three or perhaps more. It has been a very enjoyable time for most of us. We hope that your time with us has been the same for you. With the new year we get new officers, with your help. To make sure that your voice is heard, be sure to put in your nominations and be sure to vote in December.

With our growing circulation, we are looking forward to making a few improvements in your newsletter. Watch for the improvements.

As we are a growing group with a growing exchange of newsletters, we are getting a lot of new material and ideas. This does not mean that we can relax our own efforts within our local group to produce new material and ideas. We are getting more new material from our own members, but we still need your help. We cannot continue to grow and learn without interest, YOURS!! Please read a book, try a new or different program, write a program or write an article and submit it for publication.

TILL NEXT TIME###

# ############

## HARDWARE REVIEW

### HARDWARE
#### Dick Wagner
A Radio Shack No. 274-301 Signal Reducer is handy to make that tape recording without using your computer. Plug this adapter into the EAR jack of a spare recorder and copy onto your regular cassette recorder. Just connect a cable between the adapter and MIC and you are in business. The only volume to adjust is the originating player and that should be normal for your computer.
    You can also copy while LOADing into your computer.

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## <<<<<<<<<<<<<<<
## BITS and BYTES

Here we are again with more Bits and Bytes of news from the world of ZX/TS. We hope that in this column each of you will find at least one piece of news that will be of some use to you.

SPECIAL- This month we are devoting a great deal of our newsletter to User Defined Characters. We have four of our own members to thank for these informative and, we hope, helpful articles. As noted, if anyone has any questions regarding the ideas and procedures published here, please feel free to contact the author. Next month we will return to our more or less normal format.

FAM SIG- Family Computing has bought up some time and space on CIS (Compuserve Information Service). If you have a modem, then you can log on and GO FAM. Who knows? You may find some information that proves to be useful.

ELECTIONS- Don't forget to vote! Both in the National elections and in our elections in Dec. Use your right, BE HEARD!!

MD68 UPDATE- Anyone who has an MD-68 Modem and would like to have a copy of an updated version of the software, please get in touch with Rod Gowen, of RMG Enterprises, 655-7484, to get a free copy. It is not the final version, but it will allow you to print from the screen and will allow you to download data into memory to use it later. When the final version is available, you will get a free copy of it also.

SMART II- The Smart Terminal II software for the 2050 modem has arrived! RMG has sold some copies and very quickly found out that it has some drawbacks. The worst is the almost total lack of useful information in the so-called manual. It lacks several very important instructions, not the least of which is how to transmit data and/or programs. Dennis Jurries has worked out some of the commands and we have talked with Ed Grey of a users group in Calif., and one of the members of his group has written an addendum to the manual and Ed promised to send us a copy along with a copy of their newsletter.

NEW SAMS BOOK- Your local bookstore can now get the long awaited second book, The Intermediate/Advanced 2068 Manual for you. It sells for $9.95.

PARALELL I/F- Dennis Jurries is, among all his other projects, working on a paralell I/F to enable the use of Tasword II with an 80 column printer. We wish him luck with this as well as all his other projects.

# SPECIAL
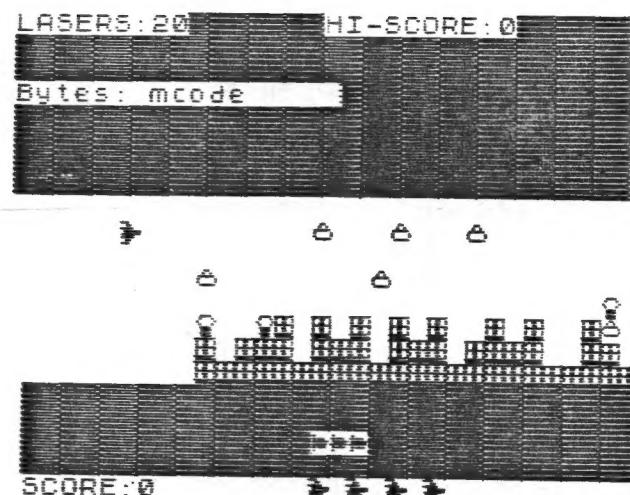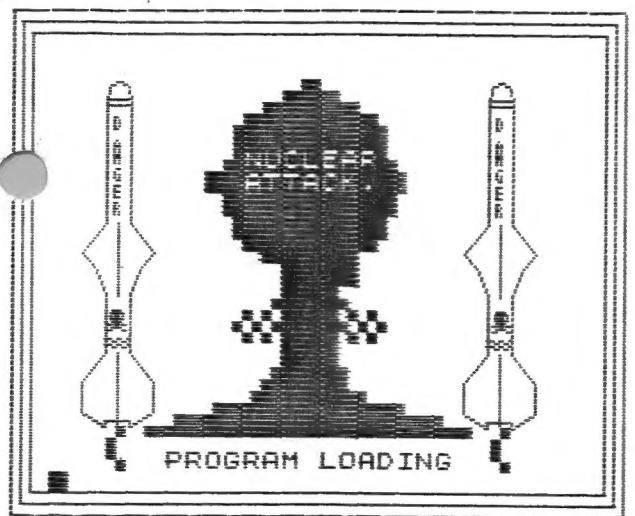
## USER    DEFINED    CHARACTERS

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### CHARACERS ON THE 1000
### PART 1
### Dick Wagner

The 1000 computer does not provide access to the smallest increment or dot the computer produces. PLOT is made up of 16 dots and uses 1/4 of the normal character space as do several GRAPHIC symbols; these are what we have to work with.

We can however see how the various characters are made. By using a monitor or TV with good resolution we can observe the composition of these, in the form of dots. The normal space provides for a format of 8x8 dot to make GRAPHIC SPACE and other symbols on the keys. However, other characters must provide a surrounding space of at least 1 row on all sides so letters, etc have 2/8 of a space between them. Thus the letters and numbers are limited to a format of 6x6 dots. To observe this make up a 3 line program as:

```
    10 PRINT " ▇ "
    20 PRINT "▇▇▇"
    30 PRINT " ▇ "
```

where ▇ is CHR$ 8 GRAPHIC A. A good TV will display CHR$ 8 as 8 rows of dots staggard with 4 dots per row. Thus 2 rows will display 8 dots.

Change line 20 with a desire symbol in the second position. Z and M show the clear boundary on all sides. Quotes, period, comma, & other punctuation marks use the fewest dots and our

little program will show where they are in relation to the character space. For instance a period is 2 dots high and 1 dot wide while a "," is 3x2.

The designers of the Sinclair Basic had to work within the limits of the 6x6 format. We can study how the designers elected to make diagonal and curved lines, which is really a challenge to make intelligent marks on the screen.

A later article will show how to extract the character format that is stored in binary form and enlarge the image 8 time larger. Be prepared for some surprises!

### PART 2
### Dick Wagner

If you tried the example in Part 1 you probably had difficulty in picking out each dot. By enlarging the character we can then see them. This program from the magazine SYNCHRO-SETTE will print most characters 8 times larger. Because of the program structure not all keyboard characters will work. The enlarged characters will look crude because of forming with a square instead of a rounded pixel.

```
    10 LET S=0
    20 PRINT AT 0,0;"ENTER ANY
       CHARACTER:::"
    25 INPUT A$
```

**3**

```
   30 LET P=7
   40 LET F=CODE A$
   50 LET F=8*F-8
  100 FOR B=7688+F TO 7688+F+7
  110 LET A=PEEK B
  120 FOR I=7 TO 0 STEP-1
  130 PRINT AT 21-P, I+5;
      CHR$ ((A-2*INT (A/2))*
      128)
  140 LET A=INT (A/2)
  150 NEXT I
  160 LET P=P-1
  170 NEXT B
  180 LET S=S+8
  190 IF S>25 THEN GOTO 300
  200 GOTO 20
  300 FOR N=1 TO 8
  310 SCROLL
  320 NEXT N
  330 GOTO 10
 9998 SAVE "BIG/CHAR EXAM"
 9999 RUN
```

# #################
# 118 User Defined
# Graphics
# Characters

by Dennis Jurries | 655-9670

According to Chapter 18, page 163 of the TS 2068 User Manuel you can create and use 21 user defined graphic symbols. Some people may not be aware of the fact that you can do far more than that 21. That chapter goes into how you can by using BIN create those graphics characters. This article will show you how to create your symbols easier and faster than the manuel shows and how to do more than 21.

The first step is to either get some gragh paper or create your own with small 8 X 8 grid patterns. The 8 X 8 box should be small (1/2 inch square max.). The reason for this is that the smaller the box the closer your character will resemble the character on the screen. At the top of each column of eight smaller boxes from left to right write each of these numbers; 128, 64, 32, 16, 8, 4, 2, 1. This is the 2's compliment repre -sentation of the columns as described in the previous article "ATTRIBUTES". You should now have a box of smaller boxes with numbers across the top like those on page 164 of the manuel only smaller.

Next draw in your character as shown in the manuel filling in the small boxes that your lines pass through. The next step is to at the right of each row of small boxes add up the total value of all of the boxes in that row. As an example the 1/4 symbol used in the manuel; row 1: 64, row 2: 64+4, row 3:64 +8, row 4: 64+16, row 5: 32+8+2, row 6: 64+8+2, row 7: 8+4+2+1, row 8: 2.

Use the following program to insert your character into one of the 21 user defined graphics character keys A to U.

```
 1000 FOR a=USR"e" TO USR "e"+7
 1010 READ b:POKE a,b
 1020 NEXT a
 1030 DATA 64,68,72,80,42,74,15
,2
```

The above 21 user defined graphics characters are, as are the standard character set for the computer set up and control-led by a ROM subroutine. In order to use more than those 21 you will have to bypass the ROM routine for the standard charact -er set and instead goto RAM.

According to the 2068 manuel address 23606 always contains the address that is 256 less than the address of the character set. In fact this is the least significant byte of the address less 256 with address 23607 containing the most significant byte of the total address. If you PEEK these addresses you will get 0 & 60 respectfully. This corres- ponds to address 15360 in ROM, add 256 to it giving 15616 as the starting address of the standard character set.

If you use this method you must retain in RAM any character that you still want to keep from the space to the copyright symbol as the characters are cal -led up in order. The following is a sample method for re- placing the letters both capital and lower case while retaining all other characters.

Lower ramtop to protect new character set
```
   10 CLEAR 64499
   20 LET a=PEEK 23606+256*PEEK
23607+256
```
Take 33 characters from ROM & put in RAM
```
   30 FOR n=0 TO 32
   40 FOR i=0 TO 7
   50 POKE 64500+i+8*n,PEEK (a+
i+8*n)
   60 NEXT i
   70 NEXT n
```
Read in characters to replace capital letter characters
```
   80 FOR n=33 TO 58
   90 FOR i=0 TO 7
  100 Read x
  110 POKE 64500+i+8*n,x
  120 NEXT i
  130 NEXT n
```
Take 6 characters from ROM & put in RAM
```
  140 FOR n=59 TO 64
  150 FOR i=0 TO 7
  160 POKE 64500+i+8*n,PEEK (a+
i+8*n)
  170 NEXT i
  180 NEXT n
```
(Cont. next page)

Read in characters to replace
26 lower case letters
```
200 FOR n=65 TO 90
210 FOR i=0 TO 7
220 READ x
230 POKE 64500+i+8*n,x
240 NEXT i
250 NEXT n
```
Take last 5 chacters from ROM &
     put in RAM
```
260 FOR n=91 TO 95
270 FOR i=0 TO 7
280 POKE 64500+i+8*n,PEEK (a+
i+8*n)
290 NEXT i
300 NEXT n
8000 DATA ................
```

It is possible that with just
the 21 UDG's and the character
set redefined to now have 118
user defined graphic characters.
Make up the data statements as
in the 21 UDG's.

      To use after running POKE
23606,244: POKE 23607,250.  To
go back to the standard charact-
er set just POKE 23606,0: POKE
23607,60.

$$$$$$$$$$$$$$$$
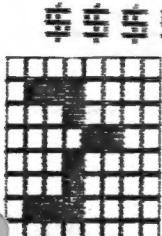


```
0
112
16
12
16      CHR$ 125 }
16
112
0
```

For all of the T/S 2068 users
who want a better way to use the
capabilities of the computer to
enhance their games or even to
dress up their more serious pro-
grams, here is a way to define
their graphics without resorting
to using the binary code sug-
gested in the owners manual.
That method requires inputting
64 numbers for each character &
this method only needs 8 numbers
for each character. you do need
to make a graph for all the com-
binations.
  I have made such a graph and I
would be happy to show it to any
member who is interested. If
there are enough people inter-
ested I could be persuaded to
make up one for reproduction so
anyone could have it handy to
refer to when programming user-
defined graphics-you soon get to
find the numbers easily after
the pattern begins to sink in-
many numbers will be used over
and over, so it gets easier with
use.
  Yours for Happy Computing,
          JACK ARMSTRONG
This little routine will poke
numbers into locations in ROM
which will give you user-defined
graphics on lower case keys in
graphics mode - you can use all
the letters from a through u
inclusive.

```
FOR a=USR "a" TO USR "a"+7
READ user: POKE a,user: NEXT a
DATA 255,129,129,129,129,129,129
,255
```

□ is the character you will get
on the "a" key.
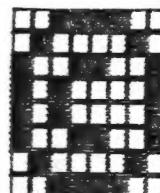


```
60
66
153
161
161      CHR$ 127 ©
153
66
60
```

✱✱✱✱✱✱✱✱✱✱✱✱✱✱✱

COMPUTER CHARACTER FORMAT
T/S 1000 & 2068
Dick Wagner

  Jack Armstrong's 4 line pro-
gram for character generation
uses decimal values of binary
numbers in the DATA statement.
The same system applies to the
T/S 1000 but we cannot access
generation unless we make up
characters in a large 8X8 for-
mat such as some programs pro-
vide. Now is a good time to
look into character format.
  By making a diagram we can
arrive at the decimal values of
the 8 column by 8 line character
format. Zero thru 7 lists the
columns. The 8 rows must be
used from the top down. The DEC
column is the decimal values of
the 1 & 0 locations across the
chart. Input these values into
the DATA line for columns 0 to
7 in this order and you will
have the / on the U key and on
the A key.
  To return the a key to normal
either repower the computer or
use Jack's program and define a
by this chart.
  We have also produced a
simple diagram that gives us
one method to easily read the
binary number of any row by
using the applicable DEC num-
bers. If rows 1 & 8 are full of
1's the number is the sum of the
DEC column or 255. If rows 2
thru 7 have a 1 in columns 0 &
7 the DEC number is 1+128 or
129. Thus we have Jack's DATA
line formed which produces an
empty square. Change row 4 to
1+8+128 and we have a square
with a dot in the center.
  Let your computer compute the
the DATA input by adding the
values by inputting 1+8+128
between ,'s.

| 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | DEC. |
|---|---|---|---|---|---|---|---|------|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 |
| 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 4 |
| 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 8 |
| 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 16 |
| 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 32 |
| 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 64 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 128 |

$$$$$$$$$$$$$$$$

```
1 REM An experiment in 2068
       USR  graphics.
2 REM All capitals CHR$
       inside quotes are
       graphics.
10 FOR z=0 TO 7
20 READ a: READ b: READ c:
READ d
30 POKE USER "A"+z,a: POKE
USER "B"+z,b: POKE USER "C"+z,c:
 POKE USER "D"+z,d
40 NEXT z
41 REM CHR$ 16+(CHR$ 0 thru
       CHR$  9) sets color of
       USER graphics.
50 LET a$=CHR$ 16+CHR$ (INT (
RND*5)+1)+"A"
60 LET b$=CHR$ 16+CHR$ (INT (
RND*5)+1)+"B"
70 LET c$=CHR$ 16+CHR$ (INT (
RND*5)+1)+"C"
80 LET d$=CHR$ 16+CHR$ (INT (
RND*5)+1)+"D"
98 REM There should be 8 data
       statements. Create
       USR CHR$ using grid
       shown below. Add up
       bit weights and number
       them 1 to 8 as grid
       shows. Data statement
       #1 contains all the
       1st bytes, #2 contains
       all the 2nd bytes,
       etc. #8 contains all
       the 8th bytes.
99 REM There should be 8 data
       statements. Create USR
       CHR$ using the grid
       shown below. Add up
       bit weights and number
       them 1 TO 8 as grid
       shows. Data statement
       #1 contains all the
       1st bytes, #2 contains
       all the 2nd bytes,
       etc. #8 contains all
       the 8th bytes.
100 DATA 24,24,24,0
110 DATA 60,60,60,0
120 DATA 152,24,25,0
130 DATA 126,60,126,24
140 DATA 27,60,216,60
150 DATA 120,60,30,60
160 DATA 72,24,18,60
170 DATA 204,60,115,60
200 FOR f=1 TO 30
210 PRINT AT 10,f;" ";c$:
PAUSE 5: NEXT f
215 PRINT AT 10,31;b$: PAUSE
10
220 FOR f=30 TO 0 STEP -1
230 PRINT AT 10,f;a$;" ":
PAUSE 5
240 NEXT f
250 PRINT AT 10,0;d$
```

| 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 | |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | =24 |
| 2 | | | | | | | | =60 |
| 3 | | | | | | | | =152 |
| 4 | | | | | | | | =126 |
| 5 | | | | | | | | =27 |
| 6 | | | | | | | | =120 |
| 7 | | | | | | | | =72 |
| 8 | | | | | | | | =204 |

graphic

a$ = "A"
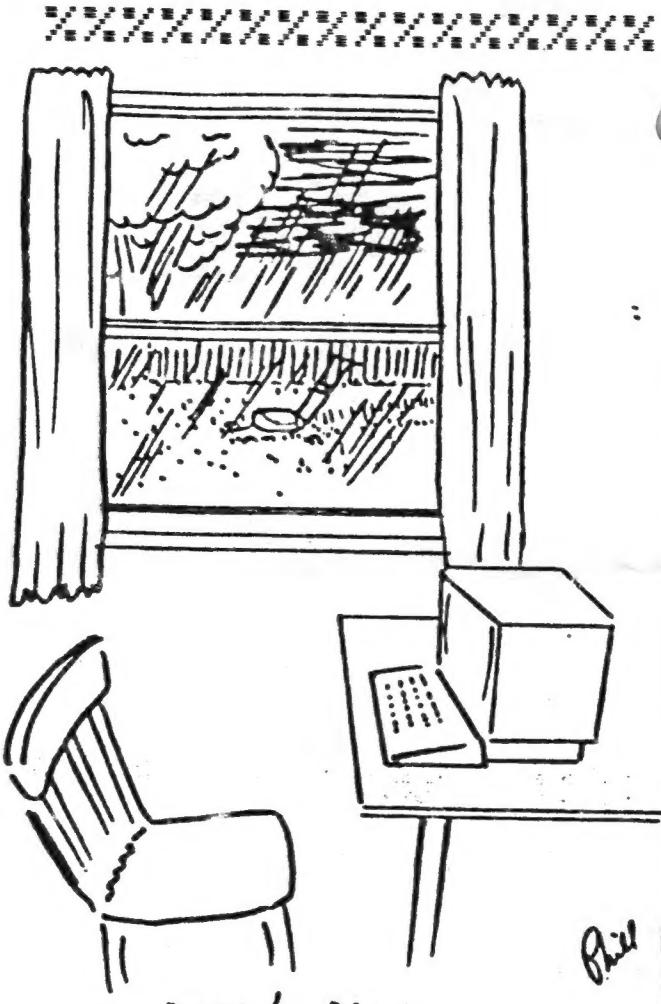


OH RATS !... RAIN

Thanks to Paul Hill, SINCUS
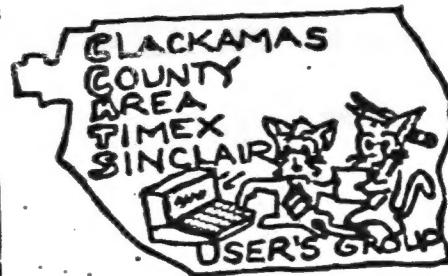


BLACKAMAS COUNTY AREA TIMEX SINCLAIR USER'S GROUP

## SPECIAL NOTE

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6

# * * * * * * * * * * * * * *
## ZX / TS
## P and R

### TREASURE
### CHESTS OF NIM
### Dick Wagner

This game is from the book "GAMES FOR YOUR T-S 1000" by Mark Charlton and published by DELL. I have shown a conversion to play on the 2068.
You use keys 1,2 or 3 with the goal to take the last chest.

```
10 RAND
15 LET P=INT (RND*15)+10
20 PRINT AT 0,0;"$▮▮▮▮▮▮▮▮▮▮▮▮
▮▮▮▮▮▮▮▮▮"( TO P); AT 5,5;P;" C
HESTS"
30 IF RND <.5 THEN GOTO 120
40 PRINT AT 8,0;"
"
50 PRINT AT 12,0;"HOW MANY CHES
TS WILL YOU REMOVE?"
60 LET R=CODE INKEY$-28
70 IF R<1 OR R>3 THEN GOTO 60
80 PRINT AT 12,0;"
";AT 9,0;"
"
90 LET P=P-R
100 PRINT AT 5,5;P;" CHEST";"S"
AND P<>1;" LEFT ";AT 8,0;"YOU RE
MOVED ";R;
105 GOSUB
110 IF P<1 THEN GOTO 220
120 LET N=INT (P/4)*4
130 IF P <>N THEN LET R=P-N
150 LET P=P-R
160 PRINT AT 9,0;"I REMOVED ";R
165 GOSUB  240
170 PRINT AT 5,5;P;" CHEST";"S"
AND P<>1;" LEFT "
180 IF P<1 THEN GOTO 200
190 GOTO 40
200 PRINT AT 0,0;"$$$ I WIN $$$
"
210 STOP
220 PRINT AT 0,0;"$$$ YOU WIN $
$$"
230 STOP
240 FOR A=1 TO 10
250 PRINT AT 0,P;"▮▮▮"( TO R);AT
0,P;"    "( TO R)
260 NEXT A
270 RETURN
300 SAVE "NIM"
310 RUN
```

To be compatable with the 2068 we must start our count from 48 instead of 28 as 0 is CODE 48. CODE 28 is 0 on the 1000.

## & & & & & & & & & & & & & & & &
## $!!A GOOD BUY!!$
### ‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡

Hollywood Computers, on 40th & Broadway, in Portland, has a very good deal on an Epson RX 80 80 Column Dot Matrix printer. Only $249.95!! If you want a recommendation, get in touch with Terry Abrahamson. She can tell you what it is capable of.

## $ $ $ $ $ $ $ $ $ $ $ $ $ $ $

---

```
********************************
   Just for FUN try this
********************************
01 CLS
05 INK 0: ON ERR GO TO 1
10 INPUT INK0;"Enter Number";n
15 IF n<210 THEN GO TO 10
17 IF n>800 THEN GO TO 10
20 INPUT INK0; "Enter Ink";i
25 IF i <0 THEN GO TO 20
30 IF i >7 THEN GO TO 20
35 CLS
40 INK i; PLOT 75,85: DRAW 50,50
   ,n
42 REM 50,50 can be changed to
   25,25
43 PRINT #1; AT 0,0;"PRESS Z for
   copy to PRINTER"
45 PRINT #1; AT 0,0;"Press any
   other key to continue"
46 IF INKEY$="" THEN GO TO 46
49 IF INKEY$="Z" THEN COPY :
   LPRINT "Number";n:LPRINT:
   LPRINT
50 GO TO 10
```

## NOTICE
## NOTICE

Here is a list of computer BBS (Bulletin Board Systems):

Commodore PDX...........620-6642
                        284-3624

✓ Bit Bucket..............761-6345

Backwater Msg System....230-1041

Bee-color(Aloha)........626-8343 Gresh.

✓ CBBS/NW................646-5510
                        284-5260

KGON BBS................649-7814 Beav.
                       657-9526

Dune BBS................297-7413

Whispering Pines........682-0686

Nerdolux................283-2983

Connection 80...........281-7653

Stan's BBS..............775-5779

DYM.....................235-1437

GALF....................284-0477

O.L.E...................626-0228

TIBBS...................661-0400

KAMAS...................238-6572

This list is not to be considered a complete list of all local Boards. If anyone knows of any that we have missed, please feel free to submit them to The Plotter. We will publish updates from time to time.

7

# XXXXXXXXXXXXXXXX
# CLASSIFIED ADS
## *****************

### FOR SALE

1-IBM Selectric typewriter. In
very good condition. $300.00
Call Dennis Jurries 655-9670

# $ $ $ $ $ $ $ $ $ $ $ $ $ $ $

### RMG ENTERPRISES
## *****************
### FOR MUSIC LOVERS

#### MUSICOLA

This is a very complete program
for composing and printing music
in three part harmony. Simple to
use- makes music fun.

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All copy must be in by the 10th
of the month prior to month ad
is to appear in.

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SALEM,              OR 97301

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